

Claims

What is claimed is:

1. A display entity for use in presenting a visual depiction of a physical or logical process entity associated with a process plant to a user via a display device, the display entity comprising:

a computer readable memory; and

a display object stored on the computer readable memory and adapted to be executed on a processor, the display object including:

a property memory adapted to store a value of a property associated with the process entity; and

a multiplicity of graphic visualizations of the process entity, wherein one of the multiplicity of graphic visualizations is displayed on a display device as a graphic representation of the process entity when the display object is executed on a processor.

2. The display entity of claim 1, wherein the identity of the one of the multiplicity of graphical visualizations that is to be displayed on the display device when the display object is executed is selectable.

3. The display entity of claim 1, wherein the display object further includes an indication defining one of the multiplicity of graphic visualizations as a default graphic visualization.

4. The display entity of claim 1, wherein a first one of the multiplicity of graphic visualizations depicts the process entity according to a first graphical standard or norm and a second one of the multiplicity of graphic visualizations depicts the process entity according to a second graphical standard or norm.

5. The display entity of claim 4, wherein the first graphical standard or norm is associated with an oil and gas industry graphical standard or norm or with a pharmaceutical industry graphical standard or norm.

6. The display entity of claim 1, wherein a first one of the multiplicity of graphic visualizations depicts the process entity according to a first graphical style and a second one of the multiplicity of graphic visualizations depicts the process entity according to a second graphical style.

7. The display entity of claim 1, wherein a first one of the multiplicity of graphic visualizations depicts the process entity in a manner designed for display on a first type of display device and a second one of the multiplicity of graphic visualizations depicts the process entity in a manner designed for display on a second type of display device.

8. The display entity of claim 7, wherein the first type of display device is a standard computer screen and the second type of display device is a handheld display device associated with a personal data assistant or a wireless telephone.

9. The display entity of claim 7, wherein the first type of display device includes a display screen that is significantly different in size than the second type of display device.

10. The display entity of claim 1, wherein a first one of the multiplicity of graphic visualizations depicts the process entity in a manner associated with a first function within the process plant and a second one of the multiplicity of graphic visualizations depicts the process entity in a manner associated with a second function within the process plant.

11. The display entity of claim 1, wherein the display object is adapted to accept and store different ones of the multiplicity of graphic visualizations at different times.

12. The display entity of claim 1, wherein the display object is adapted to change graphic visualizations to use in a display after the display object associated with the display.

13. The display entity of claim 1, wherein the display object is adapted to store different ones of the multiplicity of graphic visualizations created by different designers, so that a second one of the multiplicity of graphic visualizations may be created by a different person than a first one of the multiplicity of graphic visualizations.

14. The display entity of claim 1, wherein the display object further includes a routine that executes when the display object is executed to perform an operation with respect to the value of the property stored in the property memory.

15. The display entity of claim 1, wherein the display object further includes an animation routine that animates one of the multiplicity of graphic visualizations based on the value of the property stored in the property memory.

16. The display entity of claim 15, wherein the animation routine animates the one of the multiplicity of graphic visualizations by applying at least one of a skew, or a rotation, or a translation, or a resizing, or a color change to the one of the multiplicity of graphic visualizations.

17. The display entity of claim 15, wherein one of the multiplicity of graphic visualizations enables a user to interact with the one of the multiplicity of graphic visualizations to perform a function.

18. The display entity of claim 17, wherein the function includes specifying a change to a value within a runtime environment.

19. The display entity of claim 18, wherein the runtime environment includes a control routine.

20. The display entity of claim 15, wherein the executable routine detects a condition associated with the process entity and indicates the detected condition via the one of the multiplicity of graphic visualizations.

21. The display entity of claim 20, wherein the executable routine detects a state associated with the process entity and indicates the state via the one of the multiplicity of graphic visualizations.

22. A graphic display editor for use in a process plant to create a graphic display that represents an operation of one or more entities within the process plant, the graphic display editor comprising:

a library of graphic objects, wherein one of the graphic objects includes a multiplicity of different visual representations of a physical or a logical entity within the process plant; and

a graphically based editor canvas routine that enables a user to define an executable graphic display by placing indications of one or more graphic objects from the library of graphic objects onto an edit canvas to define a manner in which visual representations of the one or more graphic objects will be displayed on a display device to a user during execution of the graphic display, wherein the graphically based editor canvas routine enables the user to select between the multiplicity of different visual representations for the one of the graphic objects when the one of the graphic objects is placed into the edit canvas.

23. The graphic display editor of claim 22, further including a property definition canvas routine adapted to enable a user to define a property associated with the one of the graphic objects and a binding definition routine adapted to enable a user to specify a binding between the property and a runtime environment within the process plant.

24. The graphic display editor of claim 23, further including a script definition routine adapted to enable a user to define an executable routine that operates on the property.

25. The graphic display editor of claim 24, wherein the script definition routine operates in conjunction with an animation routine that animates the selected one of the multiplicity of different visual representations of the one of the graphic objects.

26. The graphic display editor of claim 25, further including an animation definition routine adapted to enable a user to define an animation routine that animates the selected one of the multiplicity of different visual representation of the one of the graphic objects.

27. The graphic display editor of claim 26, wherein the animation routine applies at least one of a skew, a rotation, a translation, and a resizing to the selected one of the multiplicity of different visual representations of the one of the graphic objects.

28. The graphic display editor of claim 25, wherein the script definition routine enables a user to define the executable routine as a routine that detects a condition associated with the process entity and that indicates the detected condition with a change to the selected one of the multiplicity of different visual representations of the one of the graphic objects.

29. The graphic display editor of claim 22, wherein the one of the graphical display objects includes an indication defining one of the multiplicity of different visual representations as a default visual representation to be used when the display object is executed.

30. The graphic display editor of claim 22, wherein a first one of the multiplicity of different visual representations depicts the process entity according to a first graphical standard or norm and a second one of the multiplicity of different visual representations depicts the process entity according to a second graphical standard or norm.

31. The graphic display editor entity of claim 30, wherein the first graphical standard or norm is associated with an oil and gas industry graphical standard or norm or with a pharmaceutical industry graphical standard or norm.

32. The graphic display editor of claim 22, wherein a first one of the multiplicity of different visual representations depicts the process entity according to a first graphical style and a second one of the multiplicity of different visual representations depicts the process entity according to a second graphical style.

33. The graphic display editor of claim 22, wherein a first one of the multiplicity of different visual representations depicts the process entity in a manner designed for display on a first type of display device and a second one of the multiplicity of different visual representations depicts the process entity in a manner designed for display on a second type of display device.

34. The graphic display editor of claim 33, wherein the first type of display device is a standard computer screen and the second type of display device is a handheld display device associated with a personal data assistant or a telephone device.

35. The graphic display editor of claim 33, wherein the first type of display device includes a display screen that is significantly different in size than the second type of display device.

36. The graphic display editor of claim 22, wherein a first one of the multiplicity of different visual representations depicts the process entity in a manner associated with a first function within the process plant and a second one of the multiplicity of different visual representations depicts the process entity in a manner associated with a second function within the process plant.

37. The graphic display editor of claim 22, wherein the graphically based editor canvas routine is adapted to enable a user to store different ones of the multiplicity of different visual representations for the one of the graphic objects at different times.

38. A graphic display for use in a process plant to represent the interconnections between one or more physical or logical entities within the process plant, the graphic display comprising:

a plurality of graphical objects interconnected together, wherein each of the graphical objects includes a visual representation of a physical or a logical process entity to be displayed on a display screen during execution of the graphic display; and

a property memory adapted to store a value for a property associated with at least one of the physical or logic process entities;

wherein one of the plurality of graphical objects includes two or more visual representations of a physical or a logic process entity and an indication of which of the two or more visual representations to display on a display screen during execution of the graphic display.

39. The graphic display of claim 38, further including a binding memory adapted to store a binding that binds the property memory to a runtime environment within the process plant to receive data associated with the property.

40. The graphic display of claim 38, further including a routine that changes at least one of the two or more visual representations of the one of the plurality of graphic objects during execution of the graphic display.

41. The graphic display of claim 40, wherein the routine comprises an animation routine that animates the one of the two or more visual representations of the one of the plurality of graphic objects during execution of the graphic display.

42. The graphic display of claim 38, wherein the indication of which of the two or more visual representations to display is user changeable.

43. The graphic display of claim 38, wherein a first one of the two or more visual representations of the one of the plurality of graphic objects depicts the process entity according to a first graphical standard or norm and a second one of the two or more visual representations of the one of the plurality of graphic objects depicts the process entity according to a second graphical standard or norm.

44. The graphic display of claim 38, wherein a first one of the two or more visual representations of the one of the plurality of graphic objects depicts the process entity in a manner suited to be displayed on a first type of display device and a second one of the two or more visual representations of the one of the plurality of graphic objects depicts the process entity in a manner suited to be displayed on a second type of display device.

45. The graphic display of claim 44, wherein the first type of display device includes a display screen that is significantly different in size than the second type of display device.

46. The graphic display of claim 38, wherein the display object is adapted to accept different ones of the two or more graphic visualizations at different times.